UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/816,887	KIM ET AL.
	Examiner	Art Unit	
	MATTHEW S. LINDSEY	2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *22 April 2009*.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,3-6,8-10,13-19 and 22-26* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1,3-6,8-10,13-19 and 22-26* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☒ All   b) ☐ Some *   c) ☐ None of:
       1. ☒ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1, 3-6, 8-10, 13-19 and 22-26 are pending in this application. No claim

amendments have been made in the response filed 22 April 2009.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

3.   Claims 1, 5, 8, 9-10, 13-14, 18-19 and 22-23 are rejected under 35

U.S.C. 102(b) as being anticipated by Coley et al. (US 5,826,014).

4.   With respect to Claim 1, Coley disclosed: "A network connection apparatus (Col.

8, lines 43-46), comprising:

        a computer-readable medium storing a computer program (Col. 8, lines 55-57),

which when executed by a computer processor, comprises

        a join module for connecting a second network, to which the join module belongs,

with a first network in response to an inter-network connection request message

transmitted from the first network (Col. 7, lines 35-39), setting a security level of the first

network to a set security level (Col. 7, lines 54-56 and Col. 8, lines 66-67, where the

levels include authorized and not authorized), and controlling network command messages in response to the set security level (Col. 7, lines 54-56 and Col. 8, lines 66-67, where communication from authorized networks are allowed and communication from unauthorized networks are discarded);

a connection module for receiving the inter-network connection request message transmitted from the first network (Col. 7, lines 42-46) and connecting the first network with the second network (Col. 8, lines 66-67);

an authentication/security module for determining whether to allow a connection of the first network that has transmitted the inter-network connection request message to the connection module (Col. 7, lines 47-50), and setting and checking the security level of the first network (Col. 7, lines 54-56 and Col. 8, lines 66-67, where the levels include authorized and not authorized); and

a transmission module for transmitting a requested network command message requested by the first network when the connection is allowed by the authentication/security module (Col. 10, lines 36-39);

wherein the security level is applied differently depending on the first network to be connected (Col. 9, lines 33-40)".

5.   With respect to Claim 9, Coley disclosed: "A method for connecting separate networks (Col. 8, lines 43-46), comprising:

(a) transmitting an initial inter-network connection request message to a second network by a first network (Col. 7, lines 39-42);

(b) analyzing the initial inter-network connection request message and setting a security level of the first network to a set security level by the second network (Col. 7, lines 54-56 and Col. 8, lines 66-67, where the levels include authorized and not authorized);

(c) transmitting a network command message to the second network by the first network (Col. 11, lines 1-10);

(d) checking, by the second network, the set security level of the first network which has transmitted the network command message (Col. 9, lines 33-40); and

(e) transmitting the searched checked security level and the network command message to the second network (Col. 10, lines 36-39);

wherein the security level is applied differently depending on the first network to be connected (Col. 9, lines 33-40); and

wherein (b) comprises analyzing the initial inter-network connection request message (Col. 7, lines 42-46) and determining whether to allow a connection between the first and the second networks (Col. 7, lines 54-56 and Col. 8, lines 66-67)".

6.   With respect to Claim 18, Coley disclosed: "A method for connecting separate networks (Col. 8, lines 43-46), comprising:

(a) receiving an initial inter-network connection request message from an external network (Col. 7, lines 39-42);

(b) analyzing the initial inter-network connection request message and setting a

security level of the external network to a set security level (Col. 7, lines 54-56 and Col.

8, lines 66-67, where the levels include authorized and not authorized);

(c) receiving a network command message from the external network (Col. 11,

lines 1-10);

(d) checking the set security level of the external network which has

transmitted the network command message (Col. 9, lines 33-40); and

(e) transmitting the checked security level and the network command message to

another network to which the external network is connected (Col. 10, lines 36-39);

wherein the security level is applied differently depending on the external network

to be connected (Col. 9, lines 33-40); and

wherein (b) comprises analyzing the initial inter-network connection request

message and determining whether to allow a connection between the external and the

another networks (Col. 7, lines 54-56 and Col. 8, lines 66-67)".

7.   With respect to claim 5 Coley disclosed: "The apparatus as claimed in claim 1,

wherein the connection module contains connection information about the first network

or the devices present in the first network (Col. 10, lines 36-39, where to forward

network messages to the destination the firewall must know the address of the

destination device)".

8.   With respect to claim 8 Coley disclosed: "The apparatus as claimed in claim 1,

wherein the transmission module transmits the network command messages

transmitted and received between the first network and the second network to which the

join module belongs (Col. 7, lines 14-17)".

9.   With respect to Claims 10 and 19, Coley disclosed: "wherein the initial inter-

network connection request message includes information about the first network that

has transmitted the initial inter-network connection request message (Col. 9, lines 33-

39, where the source address is information about the first network that has transmitted

the request)".

10.   With respect to Claims 13 and 22, Coley disclosed: "wherein (e) comprises

transmitting a notify message to the first network (Col. 12, lines 6-9, where initiating a

connection is transmitting a notification message because the first network is notified of

the newly initiated connection)".

11.   With respect to Claims 14 and 23, Coley disclosed: "The method as claimed in

claim 9, further comprising: transmitting a response message for the network command

message by the second network (Col. 7, lines 39-42, where network messages can be

in the HTTP format, indicating they use TCP/IP, and TCP messages are responded to

with an ACK by the recipient); and checking a security level for the response message

of the second network (Col. 2, line 61 - Col. 3, line 1, where a firewall is used by private

networks to check inquiries from the public network and reject unauthorized users, or

users who do not meet the required security level)".

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

13.   Claims 3-4, 15-16 and 24-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Coley in view of Shah et al. (US 2003/0051009 A1).

14.   With respect to Claim 3, Coley did not explicitly state: "The apparatus as claimed

in claim 1, wherein the computer program stored on the computer-readable medium

further comprises: a management module for collecting and managing information

about devices present in the second network by performing a discovery process for the

devices; and a component module for generating a component representing services of

the devices present in the second network on a basis of the information about the

devices collected by the management module".

However, Shah disclosed: "The apparatus as claimed in claim 1, wherein the

computer program stored on the computer-readable medium further comprises: a

management module for collecting and managing information about devices present in

the second network (Shah, [0031], lines 1-3) by performing a discovery process for the

devices (Shah, [0031], lines 7-10); and

a component module for generating a component representing services of the

devices present in the second network on a basis of the information about the devices

collected by the management module (Shah, [0031], lines 3-7)".

One of ordinary skill in the art at the time of the invention would have been

motivated to combine the network access system of Coley with the home network

access system of Shah since they both disclose teachings related to accessing a

private network from an external network.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the network access system of Coley with the teachings of

Shah to include support for a management module. Motivation to combine these

references comes from Shah, where: "With such dynamically maintained records, when

the external node queries about the state of a particular device, the requested

information may be retrieved directly from either the device cache or the device view

and the response to the query may be generated without connecting to the device"

([0031], lines 10-15). Therefore by combining the references one does not have to

connect to a device in order to view the status of the device.

15.   With respect to Claim 4, the combination of Coley and Shah disclosed: "The

apparatus as claimed in claim 3, wherein the computer program stored on the

computer-readable medium further comprises:

a stack module for transmitting a control message to the devices present in the

second network (Shah, [0033], lines 1-3); and

a lookup service module for storing information about the component generated

by the component module in a lookup table (Shah, [0031], lines 1-5), and searching for

component information of a specific device upon a request for a service of the specific

device (Shah, [0031], lines 10-15)".

The motivation to combine is the same as that above in claim 3.

16.   With respect to Claims 15 and 24, Coley disclosed: "searching for devices

corresponding to the checked security level (Col. 12, lines 1-5)".

Coley did not explicitly state: "further comprising, if the network command

message is a search message for looking for a device present in the second network" or

"and transmitting information about the devices".

However, Shah disclosed: "further comprising, if the network command message

is a search message for looking for a device present in the second network ([0036],

lines 5-7)", and "and transmitting information about the devices (Shah, [0037], lines 5-

10)".

One of ordinary skill in the art at the time of the invention would have been

motivated to combine the network access system of Coley with the home network

access system of Shah since they both disclose teachings related to accessing a

private network from an external network.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the network access system of Coley with the teachings of

Shah to include support for a search message looking for a device and transmitting

information about that device. Motivation to combine these references comes from

Shah, where: "With such dynamically maintained records, when the external node

queries about the state of a particular device, the requested information may be

retrieved directly from either the device cache or the device view and the response to

the query may be generated without connecting to the device" ([0031], lines 10-15).

Therefore by combining the references one can obtain the status of the private network

elements from the external network.

17.   With respect to Claim 16, Coley did not explicitly state: "The method as claimed

in claim 9, further comprising, if the network command message is a message for

requesting information about a specific device present in the second network, searching

component information about the specific device among component information about

the devices present in the second network and transmitting the component information

about the specific device".

However, Shah disclosed: "The method as claimed in claim 9, further comprising,

if the network command message is a message for requesting information about a

specific device present in the second network ([0026], lines 3-6), searching component

information about the specific device among component information about the devices

present in the second network ([0031], lines 1-10) and transmitting the component

information about the specific device ([0037], lines 5-10)".

One of ordinary skill in the art at the time of the invention would have been

motivated to combine the network access system of Coley with the home network

access system of Shah since they both disclose teachings related to accessing a

private network from an external network.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the network access system of Coley with the teachings of

Shah to include support for a search message looking for a device and transmitting

information about that device. Motivation to combine these references comes from

Shah, where: "With such dynamically maintained records, when the external node

queries about the state of a particular device, the requested information may be

retrieved directly from either the device cache or the device view and the response to

the query may be generated without connecting to the device" ([0031], lines 10-15).

Therefore by combining the references one can obtain the status of the private network

elements from the external network.

18.   Claims 6, 17, and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Coley in view of Zintel et al. (US 6,725,281).

19.   With respect to Claim 6, Coley did not explicitly state: "The apparatus as claimed in claim 1, wherein the connection module checks periodically whether the first network transmits a transmitted network command message every predetermined period of time, and terminates the connection if the transmitted network command message is not received within the predetermined period of time".

However, Zintel disclosed: "The apparatus as claimed in claim 1, wherein the connection module checks periodically whether the first network transmits a transmitted network command message every predetermined period of time (Col. 36, lines 13-14), and terminates the connection if the transmitted network command message is not received within the predetermined period of time (Col. 36, lines 13-15)".

One of ordinary skill in the art at the time of the invention would have been motivated to combine the network access system of Coley with the home network system of Zintel since they both disclose teachings related to accessing devices on a network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the network communication system and security protocol of Coley with the teachings of Zintel to include terminating connection if a message is not received in a certain period of time. Motivation to combine these references comes from Zintel, "The scenario is this: A UCP subscribes to a CD, then the UCP reboots. Meanwhile, the CD is still trying to send notifications to that UCP. If the UCP never comes back, the subscription would be leaked because the UCP never told the CD that it was going away." (Col. 36, lines 3-8). By combining the network communication and

security system of Coley with the timeout feature of Zintel, the network communications

will be protected against leaked subscriptions.

20.   With respect to Claims 17 and 26, Coley did not explicitly state: "further

comprising, if the network command message is not received from the first network

within a predetermined period of time, terminating a connection between the first and

the second networks".

However Zintel disclosed: "further comprising, if the network command message

is not received from the first network within a predetermined period of time (Col. 36,

lines 13-14), terminating a connection between the first and the second networks (Col.

36, lines 13-15)".

One of ordinary skill in the art at the time of the invention would have been

motivated to combine the network access system of Coley with the home network

system of Zintel since they both disclose teachings related to accessing devices on a

network.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to modify the network communication system and security protocol

of Coley with the teachings of Zintel to include terminating connection if a message is

not received in a certain period of time. Motivation to combine these references comes

from Zintel, "The scenario is this: A UCP subscribes to a CD, then the UCP reboots.

Meanwhile, the CD is still trying to send notifications to that UCP. If the UCP never

comes back, the subscription would be leaked because the UCP never told the CD that

it was going away." (Col. 36, lines 3-8). By combining the network communication and

security system of Coley with the timeout feature of Zintel, the network communications

will be protected against leaked subscriptions.

Response to Arguments

21.   Applicant's arguments filed 22 April 2009 have been fully considered but they are

not persuasive.

22.   Applicant argues: "Coley fails to teach or even suggest 'setting a security level of

the first network (i.e., requesting network to a set security level.' Although the proxy

agents may deem an incoming request 'authorized' or 'unauthorized,' the proxy agent

does not set the security level of the requesting network" (pg 3, lines 13-16).

Examiner respectfully disagrees. Coley disclosed: "Source address verification

can be based on a check of the validity of one or more specific addresses, or, on a

range of address values… Such a check involves a determination of whether a host

source address of an incoming packet comports with a list of authorized or unauthorized

addresses, or is within a designated range" (Col. 9, lines 33-39). Therefore, if the

source address is in a specific range of addresses (a specific network of addresses)

that are on the authorized list, the incoming packet is deemed authorized and therefore

the specific network (to which the source address belongs) has a security level of

authorized. On the other hand, if the packet is discarded in this step, the network is

deemed unauthorized and the network has a security level of unauthorized. These security levels are set for the requesting network because a range of addresses that a specific address belongs to (for example the first octet has a value of between 0 and 100, see Col. 9, lines 34-35) comprises a network. The security level of the network is set when a proxy agent rejects or accepts a packet from a specific address within the network address range.

23.   Applicant further argues claims 9 and 18 recite similar limitations to claim 1 and are therefore allowable. Examiner respectfully disagrees, see rejections and arguments above.

24.   Applicant further argues: "the reference [Coley] fails to teach or suggest that the proxy agent transmits the checked security level to the destination machine" (pg 4, lines 3-5).

Examiner respectfully disagrees. As discussed in the arguments in section 22 above, the security level of the network in Coley is set when a proxy agent rejects or accepts a packet from a specific address within the network address range. Thereafter, a proxy agent which accepts a packet will initiate a request to the destination machine (see Col. 10, lines 36-39). Thus, the destination machine only sees requests which are from a network with a security level of authorized, and the sending of the request to the destination machine indicates to the destination machine the security level of the requesting network is authorized. The unauthorized network requests are never sent to

the destination machine, therefore all requests to the destination machine indicate to the

destination machine that the requesting network is authorized. Since these requests

come from the proxy agent (Col. 10, lines 36-39), the proxy agent transmits the security

level of the requesting network to the destination machine.

25.   Applicant further argues dependent claims are allowable because of their

dependent nature on independent claims 1, 9 and 18. Examiner respectfully disagrees,

see rejections and arguments above.

26.   Applicant further argues: "Shah fails to teach or suggest maintaining a view of the

services of the devices that are currently available" (pg 5, lines 6-7).

Examiner respectfully disagrees. Shah disclosed: "The universal control

mechanism 230 includes both a device view 330 and a device cache 320. The former

maintains a view of each device and its current state" (Shah, [0031], lines 1-3). A

current state of a device can mean its supported services. A destination port indicates

the service associated with the destination (See Coley, Col. 3, lines 63-64).

Furthermore, a state of a device can include indicating which port numbers are in use at

a device (see, for example, Krause, US 6,005,864, Col. 3, lines 29-45). Therefore, by

knowing a devices current state (as in Shah, [0031], lines 1-3), the system of Shah can

report which port numbers are in use at a device, and since port numbers correspond to

services, the current state of a device will indicate the services of the device.

Conclusion

27.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MATTHEW S. LINDSEY whose telephone number is

(571)270-3811. The examiner can normally be reached on Mon-Thurs 7-5, Fridays 7-

12.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSL
8/10/2009

/Hassan Phillips/

Primary Examiner, Art Unit 2451